

#### ICF International / Laboratory Data Consultants

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## **MEMORANDUM**

TO:

Chris Lichens, Remedial Project Manager

Site Cleanup Section 4, SFD-7-4

THROUGH:

Rose Fong, ESAT Task Order Manager (TOM)

Quality Assurance (QA) Program, MTS-3

FROM:

Doug Lindelof, Data Review Task Manager /

Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041

Technical Direction Form No.: 00105060

DATE:

June 25, 2007

SUBJECT:

Review of Analytical Data, Tier 2

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:

Omega Chem OU2

Site Account No.:

09 BC LA02

CERCLIS ID No.:

CAD042245001

Case No.:

36184

SDG No.:

Y36K5

Laboratory:

Mitkem Corporation (MITKEM)

Analysis:

Trace Volatiles

Samples:

20 Ground Water Samples (see Case Summary)

Collection Date:

February 26, 2007 through March 1, 2007

Reviewer:

April Martinez, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

#### Attachment

Jennie Han-Liu, CLP PO USEPA Region 1

Steve Remaley, CLP PO USEPA Region 9

CLP PO: [X] Attention

[X] Action

SAMPLING ISSUES: [X] Yes

[] No

#### Data Validation Report - Tier 2

Case No.: 36184 SDG No.: Y36K5

Site: Omega Chem OU2 Laboratory: Mitkem Corporation.

Reviewer: April Martinez, ESAT/LDC

Date: June 25, 2007

#### I. CASE SUMMARY

Sample Information

Samples: Y36K5 through Y36M4

Concentration and Matrix: Low Concentration Water

Analysis: Trace Volatiles

SOW: SOM01.1

Collection Date: February 26, 2007 through March 1, 2007

Sample Receipt Date: February 28, 2007 through March 2, 2007 Extraction Date: Not Applicable

Analysis Date: March 1, 2, 3, 7, and 8, 2007

Field QC

Field Blanks (FB): Y36K6, Y36L4, and Y36M1

Equipment Blanks (EB): Not Provided Trip Blank (TB): Not Provided

Background Samples (BG): Not Provided

Field Duplicates (D1): Y36L5 and Y36L6

Laboratory QC

Method Blanks & Associated Samples:

VBLK2C: Y36K5 through Y36K9, Y35K6MS, Y36K6MSD VBLK2G: Y36L1, Y36L5 through Y36L9, Y36M1 through

Y36M3

VBLK2H: Y36M4

VBLK2S: Y36K5DL, Y36K7DL through Y36K9DL, Y36L0,

Y36L1DL, Y36L2 through Y36L4, Y36L8DL,

Y36L9DL, Y36M0, Y36M2DL, Y36M3DL

VBLK2T: Storage blank VHBLK2T

**Tables** 

1A: Analytical Results with Qualifications

1B: Data Qualifier Definitions for Organic Data Review

2: Calibration Summary

#### **CLP PO Action**

The nondetected result for vinyl chloride in sample Y36L0 is qualified as rejected (R) due to a very low deuterated monitoring compound (DMC) recovery (<20%) and is flagged "R" in Table 1A (see comment A).

#### CLP PO Attention

- 1. Detected results for cis-1,2-dichloroethene in sample Y36K5 and trichloroethene in sample Y36L0 are qualified as nondetected and estimated (U,J) due to method blank and field blank contamination (see Comment C).
- 2. Results for some analytes are qualified as estimated (J) due to calibration problems (see Comments D and E).
- 3. Results for some analytes are qualified as estimated (J) due to DMC recovery problems (see Comment F).
- 4. Detected results for cis-1,2-dichloroethene in sample Y39K6 and tetrachloroethene in sample Y36L7 are qualified as estimated (J) due to concentrations exceeding calibration range (see Comment G).

## Sampling Issues

- 1. The detected result for trichloroethene in sample Y36L0 is qualified as nondetected and estimated (U,J) due to a field blank contamination (see Comment C).
- 2. The sampler signature is missing on the traffic report & chain of custody records (TR/COC; attached, p. 11 through 14 in data package).
- 3. The field blank Y36K6 was designated for "laboratory QC" on the TR/COC (attached, p.11 in data package). Consequently, recoveries and relative percent differences for matrix spike/matrix spike duplicate (MS/MSD) analysis are not meaningful.

## **Additional Comments**

As directed by the TOM, a Tier 2 validation (i.e., Tier 3 review of all results not analyzed by SIM and not rejected) was performed. Results for all analytes were reviewed except 1,4-dioxane, 1,2-dibromoethane, and 1,2-dibromo-3-chloroethane which were analyzed by SIM.

Initially, results for trans-1,2-dichloroethene in samples Y36K7 and Y36K8 and trichloroethene in sample Y36L5 were not reported on Form 1s. The laboratory submitted revised Form 1s (attached), revised quantitation reports, and mass spectra to report these results.

Other than laboratory artifacts (approximate retention times of 2.0, 2.4, 3.3, and 8.1 minutes), tentatively identified compounds (TICs) were found in samples Y36K7, Y36K9, Y36L0, and Y36L1 (see attached Form 1Js).

This report was prepared in accordance with the following documents:

- ESAT Region 9 Standard Operating Procedure 901, Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages;
- USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration, SOM01.1, May 2005; and
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2005.

#### II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	ſ	Acceptable	Comment
1	Holding Time/Preservation		Yes	
2 .	GC/MS Tune/GC Performance		Yes	
3	Initial Calibration		No	. D
4	Continuing Calibration		No	D, E
5	Laboratory Blanks		No	$\mathbf{C}$
6	Field Blanks		No	C
7	Deuterated Monitoring Compounds		No	A, F
8	Matrix Spike/Matrix Spike Duplicates	•	Yes	
9.	Laboratory Control Samples/Duplicates	,	N/A	
10	Internal Standards		Yes	
11	Compound Identification		Yes	
12	Compound Quantitation		No	B, G, H
13	System Performance		Yes	
14	Field Duplicate Sample Analysis		Yes	

N/A = Not Applicable

## III. VALIDITY AND COMMENTS

A. The nondetected result for the following analyte is qualified as rejected due to a very low DMC recovery (<20%) and is flagged "R" in Table 1A.

{Vinyl Chloride-d3}

• Vinyl chloride in sample Y36L0

A recovery of 0% was reported for the DMC vinyl chloride-d3 in sample Y36L0. Since the qualified result is nondetected, a false negative may exist. The sample was not reanalyzed.

Surrogates (e.g., deuterated monitoring compounds (DMCs)) are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with DMCs prior to purging. DMCs

provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.

- B. The following results, denoted with an "L" qualifier, are estimated and flagged "J" in Table 1A.
  - All detected results below the contract required quantitation limits

Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.

- C. The following results are qualified as nondetected and estimated due to method blank and field blank contamination and are flagged "U,J" in Table 1A.
  - cis-1,2-Dichloroethene in sample Y36K5
  - Trichloroethene in sample Y36L0

cis-1,2-Dichloroethene was found in method blank VBLK2C and trichloroethene was found in field blank Y36K6 (see Table 1A for concentrations). Results for the samples listed above are considered nondetected and estimated (U,J) and quantitation limits have been raised according to blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the CRQL, the result is reported as nondetected at the CRQL.

cis-1,2-Dichloroethene results for samples Y36K7, Y36K8, and Y36K9 and 1,1-dichloroethene result for samples Y36K5, Y36K7 through Y36K9, and Y36L1 are not qualified as nondetected and estimated since their concentrations exceed 5 times the amount in associated method blanks. Trichloroethene results for samples Y36K5, Y36K7 through Y36K9, and Y36L1 are not qualified as nondetected and estimated since their concentrations exceed 5 times the amount in the field blank Y36K6.

A laboratory method blank is laboratory reagent water or baked sand analyzed with all reagents, deuterated monitoring compounds, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during analysis.

A field blank is clean water prepared as a sample in the field by the sampler and shipped to the laboratory with the samples. A field blank is intended to detect contaminants that may have been introduced in the field, although any laboratory introduced contamination will be present. Contaminants that are found in the field blank which are absent in the laboratory method blank could be indicative of a field QC problem, a deficiency in the bottle preparation procedure, a difference in preparation of the laboratory and field blanks, or other indeterminate error.

- D. Results for the following analytes are qualified as estimated due to low relative response factors (RRFs) in initial and continuing calibrations and are flagged "J" in Table 1A.
  - Acetone and 1,2-dibromo-3-chloropropane in all samples, all method blanks, and storage blank VHBLK2T
  - 2-Butanone in samples Y36K5 through Y36L0, Y36L2 through Y36L4, Y36M0, and Y36M4; method blanks VBLK2C, VBLK2H, VBLK2S, and VBLK2T; and storage blank VHBLK2T
  - Dichlorodifluoromethane in samples Y36K5 through Y36KK9, Y36L1, Y36L5 through Y36L9, and Y36M1 through Y36M4 and method blanks VBLK2C, VBLK2G, and VBLK2H

Average RRFs below 0.05 were reported for acetone, 1,2-dibromo-3-chloropropane, and 2-butanone in initial calibrations (see Table 2). RRFs below 0.05 were reported for the analytes listed above in continuing calibrations (see Table 2). Detected results for the analytes listed above should be considered as the minimum concentrations at which these analytes are present in the samples. Where qualified results are nondetected, false negatives may exist.

DMCs 2-butanone-d5 and 2-hexanone-d5 also had RRFs below the 0.05 validation criterion in initial calibration and continuing calibrations (see Table 2). Quantitation of the analytes associated with these DMCs may have been affected by low RRFs (see attached Table 9 from the Functional Guidelines).

The RRF evaluates instrument sensitivity and is used in the quantitation of target analytes.

- E. Results for the following analytes are qualified as estimated due to large percent differences (%Ds) in continuing calibrations and are flagged "J" in Table 1A.
  - Bromoform in samples Y36L0 through Y36M4; method blanks VBLK2G, VBLK2H, VBLK2S, and VBLK2T; and storage blank VHBLK2T
  - 1,2,3-Trichlorobenzene in samples Y36L0, Y36L2 through Y36L4, and Y36M0 and method blank VBLK2S

%Ds exceeded the  $\pm 30.0$ % validation criterion for the analytes listed above in the continuing calibrations (see Table 2).

The continuing calibration checks the instrument performance daily and produces the relative response factors (RRFs) for target analytes that are used for quantitation.

F. Results for the following analytes are qualified as estimated due to DMC recoveries outside QC limits and are flagged "J" in Table 1A.

## {Chloroethane-d5}

• Dichlorodifluoromethane in samples Y36K8, Y36K9, and Y36L9

## {1,1-Dichloroethene-d2}

- trans-1,2-Dichloroethene and cis-1,2-dichloroethene in samples Y36K7, Y36K8, Y36K9, and Y36L1
- cis-1,2-Dichloroethene in sample Y36M3

## {Chloroform-d}

• 1,1-Dichloroethane in samples Y36K7, Y36K9, and Y36L1

## {Toluene-d8}

• Trichloroethene, toluene, tetrachloroethene, ethylbenzene, o-xylene, m,p-xylene, styrene, and isopropylbenzene in sample Y36L0

DMC recoveries outside QC limits are shown below.

<u>Sample</u>	<u>DMC</u>	% Recovery	QC Limit
Y36L0	Vinyl chloride-d3	0	65-131
Y36K5	Chloroethane-d5	135	71-131
Y36K6MS	Chloroethane-d5	135	71-131
Y36K8	Chloroethane-d5	132	71-131
Y36K9	Chloroethane-d5	134	71-131
Y36L6	Chloroethane-d5	139	71-131
Y36L7	Chloroethane-d5	140	71-131
Y36L9	Chloroethane-d5	141	71-131
Y36M1	Chloroethane-d5	134	71-131
Y36M2	Chloroethane-d5	136	71-131
Y36M3	Chloroethane-d5	134	71-131
Y36M4	Chloroethane-d5	151	71-131
Y36K5	1,1-Dichloroethene-d2	112	55-104
Y36K7	1,1-Dichloroethene-d2	1811	55-104
Y36K8	1,1-Dichloroethene-d2	1786	55-104
Y36K9	1,1-Dichloroethene-d2	1484	55-104
Y36L1	1,1-Dichloroethene-d2	2338	55-104
Y36M3	1,1-Dichloroethene-d2	151	55-104
Y36L1DL	1,1-Dichloroethene-d2	125	55-104

<u>Sample</u>	<u>DMC</u>	% Recovery	QC Limit
Y36K7	Chloroform-d	130	78-121
Y36K9	Chloroform-d	142	78-121
Y36L1	Chloroform-d	190	78-121
Y36L0	Toluene-d8	71	77-121
Y36K9DL	t-1,3-Dichloropropene-d-	4 72	73-121
Y36L1DL	t-1,3-Dichloropropene-d-	4 72	73-121

Detected results for affected analytes where DMC recoveries fell below QC limits may be biased low; where qualified results are nondetected, false negatives may exist. Detected results for affected analytes where DMC recoveries exceeded QC limits may be biased high. For DMC recoveries that exceeded QC limits, only detected results for associated analytes are qualified. The samples were not reanalyzed.

- G. Detected results for the following analytes are qualified as estimated due to concentrations exceeding calibration range and are flagged "J" in Table 1A.
  - cis-1,2-Dichloroethene in sample Y36K9
  - Tetrachloroethene in sample Y36L7

Concentrations of cis-1,2-dichloroethene in sample Y36K9 and tetrachloroethene in sample Y36L7 in the undiluted analyses were 26 ug/L and 21 ug/L, respectively. These values exceed the 0.5-20 ug/L calibration range. The laboratory reanalyzed sample Y36K9 at a 80-fold dilution but the cis-1,2-dichloroethene concentration was below the quantitation limit. Sample Y36L7 was not reanalyzed.

Results reported in Table 1A for these analytes are from the undiluted analyses. Their concentrations are considered to be qualitatively acceptable but quantitatively questionable and should be considered as the minimum concentrations at which these analytes are present in the samples.

H. Samples Y36K5 and Y36M2 were reanalyzed at 10-fold and 20-fold dilutions, respectively, due to high levels of trichloroethene and tetrachloroethene. Results for trichloroethene and tetrachloroethene in samples Y36K5 and Y36M2 are reported from the diluted analyses in Table 1A; results for other analytes are reported from the undiluted analyses.

Samples Y36K7, Y36K8, Y36K9, and Y36L1 were reanalyzed at 80-fold dilutions due to high levels of trichlorofluoromethane, 1,1-dichloroethene, 1,1,2-trichloro-1,2,2-trifluoroethane, chloroform, trichloroethene, and tetrachloroethene. Results for these analytes in samples Y36K7, Y36K8, Y36K9, and Y36L1 are reported from the diluted analyses in Table 1A; results for other analytes are reported from the undiluted analyses.

Sample Y36L8 was reanalyzed at a 4-fold dilution due to a high level of trichloroethene that exceeded the calibration range. The result for trichloroethene in sample Y36L8 is reported from the diluted analysis in Table 1A; results for other analytes are reported from the undiluted analysis.

Samples Y36L9 and Y36M3 were reanalyzed at 4-fold and 50-fold dilutions, respectively, due to high levels of tetrachloroethene. Results for tetrachloroethene in samples Y36L9 and Y36M3 are reported from the diluted analyses in Table 1A; results for other analytes are reported from the undiluted analyses.

Case No.: 36184

SDG No.: Y36K5

Table 1A - Tier 2

Site: Omega Chem OU2

Lab: MITKEM CORPORATION

Reviewer: April Martinez, ESAT/LDC

Date: 06/25/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type:

Trace Level Water Samples

for Trace Volatiles

Station Location :	Y36K5		_	Y36K6			Y36K7			Y36K8	_		Y36K9	_		Y36L0		
Sample ID :	Y36K5			Y36K6		FB	Y36K7			Y36K8			Y36K9			Y36L0		
Collection Date :	2/26/2007			2/26/2007			2/26/2007			2/26/2007			2/26/2007		•	2/26/2007		•
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		•
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Dichlorodifluoromethane	0.50U	J	D	0.50U	j	D	9.2	J	Д	6.6	7	DF	8.5	J	DF	0.50U		
Chloromethane	0.50U			0.50U	**;.	-2,	0.50U			0.50U			0.50U			0.50U		
Vinyl chloride	0.50U			0.50U	The second second		0.50U			0.50U			0.50U	-		0.50U	R	A
Bromomethane	0.50U			0.50U	1.77	( 14 ( E	0.50U	11.70		0.50U	3,5		0.50U			0.50U		
Chloroethane	0.50U			0.50U		ining. will actual	0.50U			0.50U			0.50U			0.50U		
Trichlorofluoromethane	6.9			0:50U	m.C	<u> </u>	210		H	200		Н	170 ≭		H			
1,1-Dichloroethene	9.4			0.50U			560		Н	540		Н	420		H	0.50U		
1,1,2-Trichloro-1,2,2-trifluoroethane	, 18	1.40	1	0.50U	av and		490	212/3-1	H	510		_ H	560		H	0.50U		Gr :
Acetone	5.0U	J	D	5.0U	J	D	50	J	D	42	J	D	40	J	D	5.0U	J	D
Carbon disulfide	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
Methyl acetate	0.50∪			0.50U			0.50U			0.50U			0.50U		e energy of	0.50Ù		l
Methylene chloride	0.50∪			0.50U			0.50∪		V	0.50U			0.50∪			0.50U		
trans-1,2-Dichloroethene	0.50∪			0.50U			0.60	J	F	0.51	_ J	F	1.7	J	F	0.50U		
Methyl tert-butyl ether	0.50U			0.50U	2.2	4.14	3.9			3.4	Ly.ac.	<u></u>	1.7		111	0.50U.	<u>ئ</u> ر ئ	함 및
1,1-Dichloroethane	0.50∪			0.50U			2.2	J	F	2.1			2.7	J	F	0.50U		
cis-1,2-Dichloroethene	1.1U	j	C	0.50∪			2.7	J	F	8.1	ij	F	_26		FG	, 0.50U		
2-Butanone	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0∪	J .	_ D	5.0U	J	D	5.0U	J	D
Bromochloromethane	0.50U			0.50U		·	0.50U	· · · · · · · ·		0.50U			0.50U			0.50U		
Chloroform	1.3	many a systematic	menor aga	0.50U			87	,J	FH	50		H	100	J .	FH	0.50U		
1,1,1-Trichloroethane	0.50U		: 0   1   1   1   1   1   1   1   1   1	0.50U	182 21		0.52			0.49L	<b>*</b> J	В.	0.37L	آيال آ	В	<sup>™</sup> 0.50U		
Cyclohexane	0.50∪		4.4.4	0.50U			0.50U	<u> </u>		0.50U			0.50U			0.50U		
Carbon tetrachloride	0.50U		1.81	0.50U		£	0.36L	J	_₿∴	- 0.50∪		 دست	0.50∪	Ata.	s,	0.50U	i 15	
Benzene	0.50U			0.50U			0.28L	J	В	0.32L	J	B	0.33L	J	В	0.50U		
1,2-Dichloroethane	0.50U			0.50U			3.8			2.4		ا شامست	11			0.50U		
1,4-Dioxane	20U			20U			20U	·-··	:===:::::::::::::::::::::::::::::::::	20U	a maren.		20U			20U		
Trichloroethene	130		Н	0.26L	J	В	150	* * *	H	350	14.	H.	670	经过	Н	0.50U	J	CF

Results for 1,4-dioxane, 1,2-dibromoethane, and 1,2-dibromo-3-chloropropane were not reviewed.

Case No.: 36184

Date: 06/25/07

SDG No.: Y36K5

Table 1A - Tier 2

Site: Omega Chem OU2

Lab: MITKEM CORPORATION

Reviewer: April Martinez, ESAT/LDC

QUALIFIED DATA
Concentration in ug/L

Analysis Type:

Trace Level Water Samples

for Trace Volatiles

Station Location :	Y36K5			Y36K6			Y36K7			Y36K8			Y36K9			Y36L0		
Sample ID :	Y36K5			Y36K6		FB	Y36K7			Y36K8			Y36K9			Y36L0		
Collection Date :	2/26/2007			2/26/2007			2/26/2007			2/26/2007			2/26/2007			2/26/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Methylcyclohexane	0.50U			0.50∪			0.50U			0.50U			0.50∪			0.50∪		
1,2-Dichloropropane	0.50U	3.47		0.50U	7.3		0.50U		1964	0.50U			, 0.50U			0.50U		
Bromodichloromethane	0.50U			0.50U		- ,	0.50U			0.50U		10 20 0000	0.30L	J	В	0.83	and sold an	marity and
cis-1,3-Dichloropropene	0.50U		₹₹.	0.50U			0.50U			0.50U		······································	0.20L	J	В	0.50U	-,	
4-Methyl-2-pentanone	5.0U		5 .3.	5.0U		61	5.0U			5.0U	,		5.0U	attentification for		5.0U		
Toluene •	0.50U			0.50U			0.50U	***		0.50U			0.50∪			0.50U	J	Ē
trans-1,3-Dichloropropene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	0.50U	· · · · ·	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.50U			0.32L	J	В	0.28L	ŋ	В	0.55	A SAME TO		0.50U		
Tetrachloroethene	26		Н	0.50U		12.74	530		Н	510		Н	620		Н	0.50∪	J	F
2-Hexanone	5.0U			5.0U			5.0U		12.	5.0U			5.0U		Á	<sub>5</sub> 5.0U		
Dibromochloromethane	0.50U			0.50U			0.50U			0.50U			0.50U			4.4		
1,2-Dibromoethane	0.50U			0.50U			0.50U			0,50U			0.50U			0.50∪		,
Chlorobenzene	0.50U		<b>.</b>	0.50U			0.50U			0.50U			0.50U			0.50U		
Ethylbenzene	0.50U			0.50U		730	0.50U			0.50U			0.50U			0.50U	J	F
o-Xylene	0.50U			0.50U			0.50U			0.50∪			0.50U			0.50∪	J	F
m.p-Xylene	0.50U			0.50ປຶ		273	0.50U	ء مناقب		0.50U			0.50U		1 1	0.50∪	J	F
Styrene	0.50U			0.50U			0.50U			0.50∪			0.50U			0.50∪	J	F
Bromoform	0.50U			0.50U	~		0.50U		-2-	0.50∪	 	ر مۇئا ھەرلامىكىلىپ	0.50U			13	ريا	_ <u>.E</u> .;
Isopropylbenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50∪	_ J	F
1,1,2,2-Tetrachloroethane	0.50U		and a search of the	0.50U		و المالية	0.50U			0.50U			0.50U			0.50∪		3.
1,3-Dichlorobenzene	0.50U			0.50U	***		0.50U			0.50U			0.50U			0.50∪		
1,4-Dichlorobenzené	0:50U			0.50U		Δ.	0.50U		, ,	0.50U	7.5		0.50U			0.50∪	, 7 <u>5</u>	
1,2-Dichlorobenzene	0.50U			0.50U		<b>[</b>	0.50U			0.50U	[l		0.50U			0.50∪		
1,2-Dibromo-3-chloropropane	0.50Ú	J	D	0.50∪	Ĵ	D.	0.50U	j	D	0.50U	J	D _	0.50U	J	D	0.50∪	<u> </u>	D
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50∪			0.50∪		
1,2,3-Trichlorobenzene	0.50U			0.50Ü	4.		0.50U	-		0.50U	$(\nabla_{\hat{q}})$		0.50U			0.50∪	J	E

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

**CRQL** - Contract Required Quantitation Limit

N/A - Not Applicable

NA - Not Analyzed

Results for 1,4-dioxane, 1,2-dibromoethane, and 1,2-dibromo-3-chloropropane were not reviewed.

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank,

TB - Trip Blank, BG - Background Sample

Case No.: 36184

SDG No.: Y36K5

Table 1A - Tier 2

Site: Omega Chem OU2

Lab: MITKEM CORPORATION

Reviewer: April Martinez, ESAT/LDC

**QUALIFIED DATA** Date: 06/25/07 Concentration in ug/L Analysis Type:

Trace Level Water Samples

for Trace Volatiles

Station Location :	Y36L1		_	Y36L2			Y36L3			Y36L4			Y36L5			Y36L6		
Sample ID :	Y36L1			Y36L2			Y36L3		ı.	Y36L4		FB	Y36L5	•	D1	Y36L6		D1
Collection Date :	2/26/2007			2/27/2007	`		2/27/2007			2/27/2007			2/27/2007			2/27/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Vai	Com	Result	Val	Com
Dichlorodifluoromethane	22	J	D	0.50U			0.50∪			0.50U			0.50U	J	D	0.50U	J	D
Chloromethane	0.50U	7		0.50U	14		0.50U		-	0.50U		€ 1 1.2 2.7	0.50U	7.7		0.50∪	erroman bi	<del>製工:</del>
Vinyl chloride	0.50U			0.50U			0.50U	-2222	relan	0.50U	A ship to manufact	.,02,04	0.50U	) to restrict		0.50∪		
Bromomethane	0.500			0.50U	7:	*;	0.50U	y i		-, 0.50U			0.50Ù	24.24	12 7 A	0.50Ú	ैं	1. No. of
Chloroethane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50∪		
Trichlorofluoromethane	400 €		H	0.50Ū			0.50Ū		Y		11	The second secon	0.50U	Ž		0:500	**************************************	
1,1-Dichloroethene	1000		Н	0.50U			0.50U			0.50U		,	0.50∪			0.50∪		,
1:1;2-Trichloro-1;2;2-trifluoroethane	1100		Н	0.50ປ່ີ		14	0.31L	( J. ).	В	0.50U			0.74		* # **	0.60%		
Acetone	70	J	D	5.0U	J	D	26	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D
Carbon disulfide	0.50∪			0.50U			0.50∪	-1 ;		0.50∪		£.	0.50∪			0.50U		25.4
Methyl acetate	0.50U			0.50U			0.50U			0.50∪	•		0.50∪			0.50∪		
Methylene chloride	0.50Ū	1.5	The same	0.50U			0.50⊍	(c)	2	. ₹0.50U			🎨 0.50ปเ			0.50U		
trans-1,2-Dichloroethene	1.8	J	F	0.50U			0.50U			0.50U			0.50U			0.50U		
Methyl tert-butyl ether	3:12		2	0.50ປ່	75		* 0.50U	14 - V		- 0.50Ù			0.500	2002				
1,1-Dichloroethane	4.1	J	F	0.50U			0.50U			0.50U			0.50U			0.50∪		
cis-1,2-Dichloroethene	4.64	ر ا	F	0.50U		منت در ا	0.50U			0.50∪			0.50∪		**************************************	ં 0:50∪ુ		
2-Butanone	5.0∪			5.0U	J.	D	5.0U	J	D	4.5L	J	BD	5.0U	<b>.</b>		5.0U		
Bromochloromethane	0.50Ü			0.50Ú			0.50Ų		2	0.50U	127		0.50U	3.1		0.50U	<b>到过</b>	ANTES.
Chloroform	200		Н	0.50U			0.50U	1		0.50U			0.29L	J	В	0.25L	J	В
1,1,1-Trichloroethane	0.94			0.50U			. 0.50U,		- 150 - 150	0.50∪			0.50∪			ં ⊸0.50U	<u> </u>	
Cyclohexane	0.50∪			0.50U			0.50U			0.50U			0.50∪			0.50U		
Carbon tetrachloride	0.28L	, J	В	0.500			0.50ປູ່	***		≆6≅0.50U <sub>e</sub>			÷.≔0:50⊎		N.	ો_ુ0:50∪	<u> </u>	i k
Benzene	0.41L	J	В	0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloroethane	13			0.500			ੁ 0.50U		in a	0.500			<b>0</b> .50U		15. 14.	0.50∪		177
1,4-Dioxane	20∪			20U			<b>20</b> U			20U		7. 27.44	20U			20U		
Trichloroethene	240		, H	0.50ປີ			0.61		<u> </u>	÷;::0.50Ü₃			1.4	是一种基		J. 1.43	*	

Results for 1,4-dioxane, 1,2-dibromoethane, and 1,2-dibromo-3-chloropropane were not reviewed.

Case No.: 36184

SDG No.: Y36K5

Table 1A - Tier 2

Site: Omega Chem OU2

Lab: MITKEM CORPORATION

Reviewer: April Martinez, ESAT/LDC

Date: 06/25/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type:

Trace Level Water Samples

for Trace Volatiles

Station Location :	Y36L1		-	Y36L2			Y36L3			Y36L4			Y36L5	,"Gi	,	Y36L6		
Sample ID :	Y36L1			Y36L2			Y36L3			Y36L4		FB	Y36L5		D1	Y36L6		D1
Collection Date :	2/26/2007			2/27/2007			2/27/2007			2/27/2007			2/27/2007			2/27/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Methylcyclohexane	0.50U			0.50∪			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloropropane	0.50∪			0.50U		17.72	0.50U			0.50U			0.50Ú	****	12.87 (17	0.50U		
Bromodichloromethane	0.50U			0.50∪			0.50U			0.50U			0.50U			0.50∪		
cis-1,3-Dichloropropene	0.50U			0.50U			0.50U	32.		0.50∪			0.50U			0.50U		
4-Methyl-2-pentanone	5.0U			5.0U			5.0U			5.0U			5.0U			5.0U		
Toluene	0.50U			0.50U		11.	.0.50U			0.50U	numas are		0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50∪			0.50∪			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	0.57			0.50Ü			0.50U			0.50U			0.50∪			0.50U		
Tetrachloroethene	920		Н	0.50∪			0.95			0.50U			8.2			8.0		
2-Hexanone	5.0U			5.0U`			5.0U	2		5.0U			5.0U		,	5.0U		
Dibromochloromethane	0.50∪			0.50∪			0.50U			0.50U			0.50U		ľ	0.50∪		
1,2-Dibromoethane	0.50Ú			0.50U	78 (A) 1 in hanna		0.50∪	3		0.50U			0.50U			0.50U		
Chlorobenzene	0.50U			0.50∪			0.50U			0.50∪			0.50∪			0.50U		
Ethylbenzene	0.50U			0.50U	عد المسابقة الكليفة المسابقة		0.50U			. 0.50U			0.50∪			0.50U		
o-Xylene	0.50U			0.50U			0.50U			0.50U			0.50∪			0:50U		
m,p-Xylene	0.50U	GA THE		0.50U			0.50U		7.3	0.50U			0.50∪			0.50U	and Productions	
Styrene	0.50U			0.50U			0.50∪			0.50∪			0.50U			0.50U		
Bromoform	0.50U	J	E	0.50U	ا لي	E	0.50U	J	Ε	0.50U	J	Ε	0.50∪	J	E	0.50∪	J	E
Isopropylbenzene	0.50U			0.50U			0.50U			0.50∪			0.50∪			0.50∪		
1,1,2,2-Tetrachloroethane	0.50U		ماد والمادات	0.50U	3		: 0.50U	ji Zugani		0.50U			0.50∪	THE CONTRACT OF THE CONTRACT O		0.50U		
1,3-Dichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50∪			0.50U		
1,4-Dichlorobenzene	0.50U	. ,	,	0.50U			0.50U	. , ,		0.50∪	. "		0.50U			0.50Ū		
1,2-Dichlorobenzene	0.50U			0.50∪		i	0.50U			0.50U			0.50U			0.50∪		
1,2-Dibromo-3-chloropropane	0.50U	J	D	0.50U	j	D	0.50U	J	D	0:50U	, J	D	0.50∪	J	D.	0.50∪	٦	D
1,2,4-Trichlorobenzene	0.50U			0.50U		I	0.50U			0.50∪			0.50∪		I	0.50∪		
1,2,3-Trichlorobenzene	0.50U			0.50U	3	E	0.50U	J	E	0.50U	J	E	0.50U			0.50U	1 2	-

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation Limit

N/A - Not Applicable

NA - Not Analyzed

Results for 1,4-dioxane, 1,2-dibromoethane, and 1,2-dibromo-3-chloropropane were not reviewed.

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank,

TB - Trip Blank, BG - Background Sample

Case No.: 36184

SDG No.: Y36K5

Table 1A - Tier 2

Site: Omega Chem OU2

Lab: MITKEM CORPORATION

Reviewer: April Martinez, ESAT/LDC

newer: April Martinez, ESAT/LL Date: 06/25/07 QUALIFIED DATA
Concentration in ug/L

Analysis Type :

Trace Level Water Samples

for Trace Volatiles

	· · · · · · ·		-	T			, .			···								
Station Location :	Y36L7			Y36L8			Y36L9			Y36M0			Y36M1			Y36M2		
Sample ID :	Y36L7			Y36L8			Y36L9			Y36M0			Y36M1		FB	Y36M2		ŀ
Collection Date :	2/27/2007			2/28/2007			2/28/2007			2/28/2007			2/28/2007			2/28/2007		
Dilution Factor :	1.0			1.0	•		1.0			1.0			1.0			1.0		
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Dichlorodifluoromethane	0.50∪	J	D	0.50U	J	D	1.4	J	DF	0.50∪			0.50U	J	D	0.50U	J	D
Chloromethane	0.50U			0.50∪	تنفث		0.50U	is	Fig. 40.5	0.50 <u>U</u>			0.50U			0.50U		ä
Vinyl chloride	- 0.50U			0.50U			0.50U			0.50U			0.50U			0.50∪		•
Bromomethane	0.500	, s	- 1	0.50U	السندان		0.500			0:50⊍ੂ	ά ; Τ		0.50ปั	<u> </u>		0:50∪	5 4 7	- 1 - 1 c
Chloroethane	0.50U			0.50U			0.50∪			0.50∪			0.50U			0.50∪		
Trichlorofluoromethane	0.50⊍	2		0.42L		В	0.50∪			0.50ປຸ່			0.50U			40:50⊍	51.3	
1,1-Dichloroethene	0.39L	J	В	0.51			1.1		1	0.64			0.50U			3.9		
1,1,2-Trichloro-1,2,2-trifluoroethane	1.3			0.82			1.3		4	0.79			0.50U			ੈ0.28Lੇ	JΥ.	В
Acetone	5.0U	J	D	5.0U	J	D	5.0∪	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D
Carbon disulfide	0.50Ŭ			0.50U			.0.50∪	\$ 3.1		0.50U	*		.0.50ປັ້ງ			0.500	4	
Methyl acetate	0.50U			0.50U			0.50∪			0.50U			0.50U			0.50U		
Methylene chloride	0.50Ŭ			0.50U	10		0.50	y		0.500			0.50∪ູ້			0.50U		
trans-1,2-Dichloroethene	0.50∪			0.50U			0.50∪			0.50∪			0.50U			0.50U		
Methyl tert-butyl ether	0.50Ù			0.50∪		*300 T	0.50ปั	5		0.50ປັ	<b>7</b> 5		. 0.50Ū			0.27₺	្សាផ្ទ	₽В
1,1-Dichloroethane	0.50U			0.50∪			0.50∪			0.50U			0.50U			0.50U		
cis-1:2-Dichloroethene	0.96(	119		0.33L	J	В	3.9			0.74	Sep. 19	- 2	0:50U			7.6		
2-Butanone	5.0U	,	•	5.0U			5.0U			5.0U	J	D	5.0U			5.0U		
Bromochloromethane	0.50U			0.50U			0.50U	,	7752	0.50Ü			0.50U	, , , , , , , , , , , , , , , , , , ,	2.2.3.3.	0.50U		
Chloroform	0.36L	J	В	0.88			0.64			0.56			0.50U			0.63		
1-1-1-Trichloroethane	0.50U	1-4		0.50U	- <del> </del>		÷ 0.50Ū			: 0.50Ú			-0.50U	<b>毫</b> 泛素		0.50U		
Cyclohexane	0.50U			0.50∪		.,	0.50U			0.50U			0.50U	,		0.50U		
Carbon tetrachloride	0.50	*	32.00	0:50∪		1 3 5	້າ: 0.50ປ່	3		0.50ปั้	<b>F</b> 3		0.50U		3-1-5	ىا0:50		
Benzene	0.50∪			0.50∪			0.50U			0.50U			0.50U			0.50U	131111111111111111111111111111111111111	
1,2-Dichloroethane	0.500	7	4.75.9.4. 3.2.3.4	0.50∪		21404	0.500			0.500	int is		0.50∪₁	P.		- 20.50∪.		· J
1,4-Dioxane	20U			20U			20∪			20U			20U			20U		
Trichloroethene	1.3			37	使进工	H	6.6	7	44	4.3		- 1	0.50Ü		7877	29		His

Results for 1,4-dioxane, 1,2-dibromoethane, and 1,2-dibromo-3-chloropropane were not reviewed.

Case No.: 36184

Date: 06/25/07

SDG No.: Y36K5

Table 1A - Tier 2

Site: Omega Chem OU2

Lab: MITKEM CORPORATION

Reviewer: April Martinez, ESAT/LDC

QUALIFIED DATA
Concentration in ug/L

Analysis Type:

Trace Level Water Samples

for Trace Volatiles

Station Location :	Y36L7			Y36L8			Y36L9			Y36M0		_	Y36M1			Y36M2		
Sample ID :	Y36L7			Y36L8			Y36L9			Y36M0			Y36M1		FB	Y36M2		
Collection Date :	2/27/2007			2/28/2007			2/28/2007			2/28/2007			2/28/2007		. –	2/28/2007		
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Methylcyclohexane	0.50∪			0.50U			0.50U			0.50U			0.50U		$\vdash$	0.50∪		
1,2-Dichloropropane	0.50∪		17th 1	0.50U	17		0.50U			0.50∪		111	0.50U		1	0.50U	77.7	
Bromodichloromethane	0.50U			0.50U		*	0.50U			0.50U			0.50U			0.50U		
cis-1,3-Dichloropropene	0.50U	V		0.50U			20.50∪	777 ( * * *) 282 ( )	3 12 2	0.50U	3	4 - 1	0.50∪		The second secon	0.50∪		· (*
4-Methyl-2-pentanone	5.0∪			5.00			5.0U	,		5.0U			5.0U			5.0U	·/	
Toluene	0.50U			0.50U	4		0.50U			0.50U			0.50U			0.50U		
trans-1,3-Dichloropropene	0.50U			0.50∪		~~	0.50U			0.50U			0.50U	-		0.50U		
1,1,2-Trichloroethane	0.50U		7777	0.50∪			0.50U	क्षा क्ष		0.50U	3	7.7.7	0.50U			0.50∪		,
Tetrachloroethene	21	J	G	1.5			49	-n., =+/	Н	13			0.50U			180		Н
2-Hexanone	₃5.0U		7	5.0U	5		5.0∪			5.0U			5.0U	784 S		5.0U∶		(
Dibromochloromethane	0.50∪		2, 0, 11.2.	0.50U			0.50U			0.50U			0.50U			0.50∪		
1,2-Dibromoethane	0.50U	7		0.50Ų			0.50U			0.50U			0.50U			0.50∪		
Chlorobenzene	0.50U			0.50∪		,	0.50U			0.50U			0.50U			0.50∪	7.1121	
Ethylbenzene	0.50U			0.50U			0.50Ü	· 1		0.50U		¥57	0.50U	N 4-2		0.50Ū		1. 1. 2
o-Xylene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50∪		
m,p-Xylene	- 0.50U			0.50U			, 0.50U			0.50U	2.27.5	F 7.	0.50U		1	0.50U	<u> </u>	
Styrene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50∪		
Bromoform	0.50U	J	E	0.50∪	J	Е	0.50U	J.	Ε	0.50U	J	٠E	0.50U	J	E	0.50U	J	É
Isopropylbenzene	0.50U			0.50∪			0.50∪			0.50U	,		0.50U		•	0.50∪		
1,1,2,2-Tetrachloroethane	0.50U	- 1777	. ∓ 	0.50U			0.50∪			0.50∪		1-	0.50U			0.50∪	* .	
1,3-Dichlorobenzene	0.50∪			0.50U			0.50U		4	0.50∪			0.50U			0.50∪		. 75, 11
1;4-Dichlorobenzene	0.500		3.01	0.50U			. 0.50Ù		34	€ 0.50Ü		STAN	0.50U	1		0.50∪		
1,2-Dichlorobenzene	0.50U			0.50U			0.50∪			0.50U			0.50∪			0.50∪		
1,2-Dibromo-3-chloropropane	0.50U	·J	. D.	0.50U	J	D	0.50U	J	D	0.50U	J	D	0.50U	J	D-	0.50∪	J	D
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			0.50U			0.50U			0.50∪		
1,2,3-Trichlorobenzene	0.50U	37.		0.50U			0.50U		77.77	0.50U	FTJ V	E	0.50Ũ	14 (1) (M)		0.500		1791

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

**CRQL - Contract Required Quantitation Limit** 

N/A - Not Applicable

NA - Not Analyzed

Results for 1,4-dioxane, 1,2-dibromoethane, and 1,2-dibromo-3-chloropropane were not reviewed.

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank,

TB - Trip Blank, BG - Background Sample

Case No.: 36184

SDG No.: Y36K5

Table 1A - Tier 2

Site: Omega Chem OU2

Lab: MITKEM CORPORATION

Reviewer: April Martinez, ESAT/LDC

Date: 06/25/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type:

Trace Level Water Samples

for Trace Volatiles

Station Location :	Y36M3			Y36M4			Method Bla	nk		Method Bla	nk		Method Bla	ank		Method Bla	ank	
Sample ID :	Y36M3			Y36M4			VBLK2C		•	VBLK2G			VBLK2H			VBLK2S		ŀ
Collection Date :	2/28/2007			3/1/2007			}											Į.
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0	_	
Trace Volatiles	Result 🔻	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Dichlorodifluoromethane	0.50U	J	D	0.50∪	J	D	0.50U	J	D	0.50U	J	D	0.50U	J	D	0.50U		
Chloromethane	0.50U	<u></u>		0.50∪	2.7.7.2 2.7.7.7	4 <sup>2-1</sup> )	0.50∪			0.500			0.50U			0.50U		
Vinyl chloride	0.50U			0.50U			0.50∪			0.50U			0.50U			0.50U		
Bromomethane	0.50U	4		0.50∪			- 0.50U		12 d	0.50U	36		0.50U	243.	***	0.50U		
Chloroethane	0.50U			0.50U			0.50U			0.50∪			0.50U			0.50U		
Trichlorofluoromethane	0.50U		36.22	0.50U		-1	0.50∪			0.50U			0.50U		.,4	0.50U	1	
1,1-Dichloroethene	,17			0.31L	J	В	0.23L	J	В	0.50∪			0.50U			0.50U		
1,1,2-Trichloro-1,2,2-trifluoroethane	0.51			0.50∪			0.50U			0.50U			0.50U		,,	0.50∪		2
Acetone	5.0U	J	D.	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D	5.0U	J	D
Carbon disulfide	0.50U			0.50U			0.50Ú			0.50U	1		0.50U			0.50U	4.176	100
Methyl acetate	0.50U			0.50∪			0.50U			0.50U			0.50U			0.50U		
Methylene chloride	0.500	7.7	347	0.50U			0.37L	J	В	0.43L	J	В	0.42L	FJ.	В	0.50U		
trans-1,2-Dichloroethene	0.50∪			0.50∪			0.50U			0.50U			0.50U			0.50∪		
Methyl tert-butyl ether	0.33L	J	В	0.50U	- <u> </u>	,,	0.50U		Ž. JĒ	0.50U	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		0.50U			0.50∪		¥
1,1-Dichloroethane	1.1			0.50∪			0.50∪			0.50U			0.50U			0.50U		l1
cis-1,2-Dichloroethene	3.8	J	F	0.50U	1. 2.3.2	1.1.1	0.37L	· J ·	В	0.50U			0.50U			0.50U	4.2.2.2.3	200
2-Butanone	5.0U			5.0U	J	D	5.0U	J	D	5.0U			5.0Ų	J	D	5.0U	J	D
Bromochloromethane	0.50U			0.50U			0.50∪			0.50U			0.50U			0.50U		
Chloroform	1.2		. , , , , , ,	0.50U			0.50∪			0.50U			0.50U			0.50U		1 1
1,1,1-Trichloroethane	0.50U			0.50U	ă-,		0.50∪			0.50U			0.50U	٠.,		0.50U		सरस्य रहा: 
Cyclohexane	0.50U			0.50U			0.50∪			0.50U			0.50U			0.50U		
Carbon tetrachloride	0.50U	7.17		0.50∪	- 75 T		ି୍ 0.50∪		3	0.50U			_0.50U		100	0.500		**10****
Benzene	0.50U			0.50U			0.50∪			0.50U			0.50U			0.50U		
1,2-Dichloroethane	0.50U			0.50U			0.50∪	. 4		0.50U			<u>.</u> 0.50U		3	0.50U		4.6
1,4-Dioxane	20U`			20U			20U			20U			20U	,		20U		
Trichloroethene	20			1.1		# <del>******</del> 23.50	0.50∪		신청	0.50U	-76 S		0.50U			0.50U	44.4.4.5	

Results for 1,4-dioxane, 1,2-dibromoethane, and 1,2-dibromo-3-chloropropane were not reviewed.

Case No.: 36184

SDG No.: Y36K5

Table 1A - Tier 2

Site: Omega Chem OU2

Lab: MITKEM CORPORATION

Reviewer: April Martinez, ESAT/LDC

Date: 06/25/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type:

Trace Level Water Samples

for Trace Volatiles

Station Location :	Y36M3			Y36M4			Method Bla	ank		Method Bla	ank		Method Bla	ank .		Method Bla	ank	
Sample ID :	Y36M3			Y36M4			VBLK2C			VBLK2G			VBLK2H			VBLK2S		
Collection Date :	2/28/2007			3/1/2007			İ						i			j		ļ
Dilution Factor :	1.0			1.0			1.0			1.0			1.0			1.0		
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Methylcyclohexane	0.50U			0.50U			0.50U			0.50U			0.50U			0.50U		
1,2-Dichloropropane	0.50U			0.50U			0.50U			0.50U		1.22	0.50U			0.50U		
Bromodichloromethane	0.50∪			0.50U			0.50U			0.50U			0.50∪			0.50U		
cis-1,3-Dichloropropene	0.50∪			0.50U			0.50U			0.50U			0.50U			0.50U		
4-Methyl-2-pentanone	5.0∪			5.0U	,		5.0U			5.0U		,	5.0U			5.0U		]
Toluene	0.50∪		1 77 1 1 7 1 7 3	0.50U			0.50Ù			0.50∪		,	0.50U			0.50U		\(\frac{1}{2}\)
trans-1,3-Dichloropropene	0.50∪			0.50U			0.50U			0.50U			0.50U			0.50U		
1,1,2-Trichloroethane	0.48L	Ĵ	В	0.50U			0.50Ú		*	0.50U			0.50∪			0.50U		
Tetrachloroethene	340		н	0.20L	J	В	0.50U	,		0.50∪			0.50U			0.50U		
2-Hexanone	5.0U	1.7.4		- 5:0U			5.0U	,		5.0U			5.0U			5.0U		
Dibromochloromethane	0.50U			0.50U			0.50U			0.50∪			0.50U			0.50U		!
1,2-Dibromoethane	0.50∪			0.50U			0.50U			0.50U		To an aria	0.50U			0.50U	A. Sanar	2.7
Chlorobenzene	0.50∪			0.50U			0.50U			0.50U			0.50U			0.50∪		
Ethylbenzene	0.50Ü	2. 6		0.50U			0.50U			0.50U			0.50U			0.50U		
o-Xylene	0.50∪			0.50U			0.50U			0.50U			0.50U			0.50U		
m,p-Xylene	0.500	7		0.50U			0.50U			0.50U	من خصورت		0.50U			0.50U		
Styrene	0.50∪			0.50U			0.50U			0.50∪			0.50U			0.50U		]
Bromoform	0.50∪	ij	ΞĒ	0.50U	j	E	0.50∪		1	0.50∪	ij	Ε	- 0.50U	. J	E	0.50U	₹.J.	E
Isopropylbenzene	0.50∪			0.50U			0.50U			0.50U			0.50U			0.50U		l!
1,1,2,2-Tetrachloroethane	0.50Ü			.≑ 0.50U		Number of the second	0.50U		52.4	0.50U		1 4.7	0.50U		30	0.50U,		
1,3-Dichlorobenzene	0.50∪			0.50U			0.50U			0.50∪			0.50∪			0.50∪		
1,4-Dichlorobenzene	0.50∪			0.50U		125	0.50U			0.50∪		10.000/0/200	0.50U			0.50Ú	4	
1,2-Dichlorobenzene	0.61			0.50U			0.50U			0.50∪			0.50U			0.50∪		
1,2-Dibromo-3-chloropropane	0.50U	J	D	0.50U	J	D	0:50U	J	D	0.50∪	J	D	0.50U	J	D	0.50U	j	D.
1,2,4-Trichlorobenzene	0.50U			0.50U			0.50U			0.50∪			0.50U			0.50∪		
1,2,3-Trichlorobenzene	0.50U	N. W		0.50U	Ş-		0.50U			0.27L	j	В	0.50U	1		0.50U	ี่ ไป ู้ `ี่	E.

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation LImit

N/A - Not Applicable

NA - Not Analyzed

Results for 1,4-dioxane, 1,2-dibromoethane, and 1,2-dibromo-3-chloropropane were not reviewed.

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank,

TB - Trip Blank, BG - Background Sample

Case No.: 36184

SDG No.: Y36K5

Table 1A - Tier 2

Site: Omega Chem OU2

Lab: MITKEM CORPORATION

Reviewer: April Martinez, ESAT/LDC

Date: 06/25/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type:

Trace Level Water Samples

for Trace Volatiles

Station Location:	Method Bla	ank		Storage Bl	ank							-						
Sample ID :	VBLK2T			VHBLK2T			CRQL											
Collection Date :																		
Dilution Factor :	1.0			1.0														
Trace Volatiles	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Dichlorodifluoromethane	0.50U			0.50U			0.50											
Chloromethane	0.50U		75 7 .	0.50U			0.50		,			57.						
Vinyl chloride	0.50U			0.50U			0.50					10000000						
Bromomethane	0.50∪			0.50Ù	7		0.50											
Chloroethane	0.50U			0.50U		,	0.50		`			, , , , , , , , , , , , , , , , , , ,						
Trichlorofluoromethane	0:50U	7.53		0.50∪		4-11.3	∞ 0.50 ੈ				11, 11001		Fil.				- 3.	
1,1-Dichloroethene	0.50U		I was the Property of	0.50U			0.50	· ·		, A chapter								
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50U			0.50U			0.50	7									, ,	
Acetone	5.0U	J	D	5.0U	J	D	5.0			an probably to the American								
Carbon disulfide	0.50U			0.50Ü			0.50		7	2.5	7.5	₹. :	Geographic Cesting		7, 1			
Methyl acetate	0.50U			0.50U			0.50								<u> </u>			
Methylene chloride	0.50U	34.2		0.50U			0.50				<u> 65</u>		Calle:	i i	3.5.40.2	200	Y.	
trans-1,2-Dichloroethene	0.50∪			0.50U			0.50								,			
Methyl tert-butyl ether	0.50∪		1.3	0.50U			0.50											*
1,1-Dichloroethane	0.50∪			0.50U			0.50											
cis-1,2-Dichloroethene	0.50U			0.50U		ा । स	0.50			3,	3	四秦				2.00		
2-Butanone	5.0U	J	D	5.0∪	J	D	5.0											
Bromochloromethane	0.50U			0.50U	7		0.50	79. 7	\$2.1. S.	\A .								
Chloroform	0.50∪			0.50U			0.50											
1,1,1-Trichloroethane	0.50U			0.50U			0.50									Š.,		
Cyclohexane	0.50U			0.50U			0.50											
Carbon tetrachloride	0.50∪	17.7		0.50U	#		0.50	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							速變			
Benzene	0.50U			0.50U			0.50											
1,2-Dichloroethane	ું, 0.50U			0.50U		. مندند.	0.50	13, 334	and a		<u> </u>						2	
1,4-Dioxane	20U			20U			20	1						L	,			
Trichloroethene	0.50∪	. ,		0.50Ũ	7127		0.50	-						177		and ordered	7	

Case No.: 36184

SDG No.: Y36K5

Table 1A - Tier 2

Site: Omega Chem OU2

Lab: MITKEM CORPORATION

Reviewer: April Martinez, ESAT/LDC

Date: 06/25/07

QUALIFIED DATA
Concentration in ug/L

Analysis Type:

Trace Level Water Samples

for Trace Volatiles

Station Location :	Method Bla	ank		Storage BI	ank		Ī			<u> </u>			_			Γ		
Sample ID :	VBLK2T			VHBLK2T			CRQL											·
Collection Date :	1			1												1		
Dilution Factor:	1.0			1.0												1		
Trace Volatiles	Result	Vai	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Methylcyclohexane	0.50U			0.50U			0.50											
1,2-Dichloropropane	0.50∪			0.50∪			0.50											
Bromodichloromethane	0.50∪			0.50U			0.50											
cis-1,3-Dichloropropene	0.50U	7 F.		0.50U			0.50			The statement of the statement								
4-Methyl-2-pentanone	5.0∪			5.0U		1	5.0					1						3 (4,5)
Toluene	0.50U	4.7		0.50Ų			0.50				STORY FOR			77.77				
trans-1,3-Dichloropropene	0.50U			0.50∪			0.50											
1,1,2-Trichloroethane	0.50∪			0.50U			0.50											
Tetrachloroethene	0.50U			0.50U		3 22. 32.	0.50					J	many in the me days				. ,	
2-Hexanone	5.0U	3777		5.0U			5.0		5 875 5 875								30 <b>53</b> 1171	
Dibromochloromethane	0.50∪			0.50U			0.50											
1,2-Dibromoethane	0.50U	Á vi	1	0.50∪			0.50		angaar ≅afar									
Chlorobenzene	0.50U			0.50U			0.50											
Ethylbenzene	0.50U			0.50Ų			0.50											
o-Xylene	0.50U			0.50∪			0.50											
m,p-Xylene	0.50U		¥ 1.712	0.50U		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.50	i en					77777					3
Styrene	0.50∪	.,		0.50∪			0.50										1	
Bromoform	0.50U	J	E	0.50U	J	E	0.50	1	3			1. 3	FT T				* ****	
Isopropylbenzene	0.50U			0.50U			0.50										,	
1,1,2,2-Tetrachloroethane	0.50U			0.50U			0.50									3.	1. 1	
1,3-Dichlorobenzene	0.50U			0.50U			0.50							,				
1,4-Dichlorobenzene	0.50ປີ	* 100 mm 1	57	0.50Ū			0.50	ा क्षा गणा, त्या. इ.स.च्या १८ वर्ष			2		F 7	1775 24.4			\$17.P	
1,2-Dichlorobenzene	0.50U			0.50U			0.50											
1,2-Dibromo-3-chloropropane	0.50U	J	D	0.50Ú	J	D	0.50	W					the same send		: 4	10.46		
1,2,4-Trichlorobenzene	0.50U		****	0.50U	. <b>***</b> *********************************		0.50			and providing to These and the second		A Committee Co.	the byte, on the ball	and the person			alessas is	vers er lank e en'e
1,2,3-Trichlorobenzene	0.50U	. 4		0.50U			0.50					., · ·					-,	

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation LImit

N/A - Not Applicable

NA - Not Analyzed

Results for 1,4-dioxane, 1,2-dibromoethane, and 1,2-dibromo-3-chloropropane were not reviewed.

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank,

TB - Trip Blank, BG - Background Sample

#### TABLE 1B

## DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," January 2005.

- U The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
- L Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
- The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
- NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
- R The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

## Table 2 Calibration Summary

Case No.: 36184 SDG No.: Y36K5

Site: Omega Chem OU2
Laboratory: Mitkem Corporation
Reviewer: April Martinez, ESAT/LDC
Date: June 25, 2007

## RELATIVE RESPONSE FACTORS (RRF)

	<u>RRF</u>	<u>RRF</u>	<u>RRF</u>	<u>RRF</u>	<u>RRF</u>
Analysis date:	02/27/07	03/01/07	03/02/07	03/02/07	03/03/07
Analysis time:	10:56-	16:10	01:00	21:35	09:28
GC/MS I.D.:	V2	V2	V2	V2	V2
<u>Analyte</u>	<u>Init.</u>	Cont.	Cont.	Cont.	Cont.
Dichlorodifluoromethane		0.044	0.038	0.043	0.032
Acetone	0.026	0.023	0.022	0.023	0.024
2-Butanone		0.049	0.044		
1,2-Dibromo-3-chloropropane	0.038	0.041	0.042	0.043	0.041
2-Butanone-d5	0.049		0.036	0.047	0.044
2-Hexanone-d5	0.042	0.048	0.033	0.041	0.037
	•.				
	RRF	RRF	RRF	RRF	RRF
Analysis date:	03/06/07	03/03/07	03/07/07	03/08/07	03/08/07
Analysis time:	12:52-	21:16	19:48	07:07	18:48
GC/MS I.D.:	V2	V2	V2	V2	V2
Analyte	<u>Init.</u>	Cont.	Cont.	Cont.	Cont.
Dichlorodifluoromethane		0.041			
Acetone	0.026	0.022	0.024	0.022	0.027
2-Butanone	0.044	0.044			
1,2-Dibromo-3-chloropropane	0.027	0.035	0.031	0.035	0.034
2-Butanone-d5	0.042	0.039	0.044	0.042	0.047
2-Hexanone-d5	0.039	0.032	0.041	0.039	0.041
. ·					
PERCENT DIFFERENCES (%D)					
	<u>%D</u>	<u>%D</u>	<u>%D</u>	<u>%D</u>	
Analysis Date:	03/02/07	03/03/07	03/07/07	03/08/07	
Analysis Time:	21:35	09:28	19:48	07:07	
GC/MS I.D.:	V2	V2	V2	V2	
Analyte	Cont.	Cont.	Cont.	Cont.	
Bromoform	+30.6	+30.8		+34.0	
1,2,3-Trichlorobenzene			+34.0		

#### ASSOCIATED SAMPLES AND METHOD BLANKS

Initial 02/27/07: Samples Y36K5 through Y36K9, Y36L1, Y36L5 through Y36L9,

Y36M1 through Y36M4, Y35K6MS, Y36K6MSD and method

blanks VBLK2C, VBLK2G and VBLK2H

Cont., 03/01/07 (16:10): Y36K5 through Y36K9, Y35K6MS, Y36K6MSD and method

blank VBLK2C

Cont., 03/02/07 (01:00): Y36K5 through Y36K9, Y35K6MS, Y36K6MSD and method

blank VBLK2C

Cont., 03/02/07 (21:35): Y36L1, Y36L5 through Y36L9, Y36M1 through Y36M3 and

method blank VBLK2G

Cont., 03/03/07 (09:28): Y36L1, Y36L5 through Y36L9, Y36M1 through Y36M3 and

method blank VBLK2G

Cont., 03/03/07 (21:16): Y36M4 and method blank VBLK2H

Initial 03/06/07: Y36K5DL through Y36K9DL, Y36L0, Y36L1DL, Y36L2

through Y36L4, Y36L8DL, Y36L9DL, Y36M0, Y36M2DL,

Y36M3DL, method blanks VBLK2S, VBLK2T and Storage blank

VHBLK2T

Cont., 03/07/07 (19:48): Y36K5DL through Y36K9DL, Y36L0, Y36L1DL, Y36L2

through Y36L4, Y36L8DL, Y36L9DL, Y36M0, Y36M2DL,

Y36M3DL and method blank VBLK2S

Cont., 03/08/07 (07:07): Y36K5DL through Y36K9DL, Y36L0, Y36L1DL, Y36L2

through Y36L4, Y36L8DL, Y36L9DL, Y36M0, Y36M2DL,

method blanks VBLK2S, VBLK2T and storage blank VHBLK2T

Cont., 03/08/07 (18:48): Storage blank VHBLK2T and method blank VBLK2T.

\$ Ef	<b>)</b> /	١
	· .	

Date Shipped: Carrier Name:

Airbill:

Shipped to:

# **USEPA Contract Laboratory Program**

Case No:	36184		
DAS No:		·	•

Organic Trainic	SDG No:	436K5	<u>L</u>					
2007 Z-27-2007	Chain of Custody	Record	Sampler Signature:			For Lab Use On		
FedEx	Relinquished By	(Date / Time)	Received By	(Date / T	Time)	Lab Contract No:	EP-W-05-030	
859278042139 Mitkem Corporation 175 Metro Center Blvd. Warwick RI 02886 (401) 732-3400	1/2	2-27-07/1530	(juu)	2-28-07	8:50	Unit Price:	<b>\$</b> D	
	2	>		<u>-</u>	$\overline{}$	Transfer To:		
	3					Lab Contract No:		
	4			<del></del>		Unit Price:		

_				_				Willet / III		
	ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No.J PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLL DATE/TIM		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
0	Y36K5	Ground Water/ Robert Hernandez	IJĠ	SIM TVOA (21), SVOA (21)	100 (Not preserved), 101 (Not preserved), 110 (HCL), 111 (HCL), 112 (HCL), 113 (HCL) (6)	Y36K5	S: 2/26/2007	10:05		01L ا
69	Y36K6	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	114 (HCL), 115 (HCL), 116 (HCL), 117 (HCL) (4)	Y36K6	S: 2/26/2007	10:15		
8	Y36K7	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	102 (Not preserved), 103 (Not preserved), 118 (HCL), 119 (HCL), 120 (HCL), 121 (HCL) (6)	Y36K7	S: 2/26/2007	11:10	· .	
Or	Y36K8	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	104 (Not preserved), 105 (Not preserved), 122 (HCL), 123 (HCL), 124 (HCL), 125 (HCL) (6)	Y36K8	S: 2/26/2007	11:48		
5	, Y36K9	Ground Water/ Robert Hernandez	M/G	SIM TVOA (21), SVOA (21)	106 (Not preserved), 107 (Not preserved), 126 (HCL), 127 (HCL), 128 (HCL), 129 (HCL) (6)	Y36K9	S: 2/26/2007	13:46		
~ ~	Y36L0	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21)	132 (HCL), 133 (HCL), 134 (HCL), 135 (HCL) (4)	Y36L0	S: 2/26/2007	13:40		
Š	Y36L1	Ground Water/ Robert Hernandez	H/G	SIM TVOA (21), SVOA (21)	108 (Not preserved), 109 (Not preserved), 136 (HCL), 137 (HCL), 138 (HCL), 139 (HCL) (6)	Y36L1	S: 2/26/2007	15:12		OK

Shipment for Case :Complete?N	Sample(s) to be used for laboratory QC: Y36K6	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 70	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = C	•	Custody Seal Intact?
SIM TVOA = CLP TCL	/olatiles (including SIM), SVOA = 1,4-Dioxane			

TR Number:

LABORATORY CO

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## **USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record**

Case No:	36184	
DAS No:		
SDG No:	436K5	<u> </u>

Γ	Date Shipped:	2/27/2007		Chain of Custod		Sampler Signature:		For Lab U					
	Carrier Name: Airbill:	FedEx		Relinquished By	(Date / Time)	Received By	(Date / Time)	Lab Contrac	t No: EP-	W. 05-030			
	Shipped to:	859278042139 Mitkem Corporation		1-16	35 2-27-07/1530	(M) .2	2-3807 8:50	Unit Price:	_\$0	)			
		175 Metro Center BI Warwick RI 02886	ıva.	2				Transfer To:		•			
- 1		(401) 732-3400		3				Lab Contrac	t No:	•			
ļ						4				Unit Price:			
	ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLL DATE/TIME	• • • • • • • • • • • • • • • • • • • •	NORGANIC AMPLE No.	FOR LAB USEONLY Sample Condition On Receipt			
6	Y36L2 )	Ground Water/ Robert Hernandez	ĽG	SIM TVOA (21), SVOA (21)	140 (Not preserved), 141 (Not preserved), 152 (HCL 153 (HCL), 154 (HCL), 15 (HCL) (6)		S: 2/27/2007	9:40		one of it amber			
Qv	` Y36L3	Ground Water/ Robert Hernandez	IJG	SIM TVOA (21), SVOA (21)	142 (Not preserved), 143 (Not preserved), 156 (HCL 157 (HCL), 158 (HCL), 15 (HCL) (6)	,,	S: 2/27/2007	10:25		OK			
Š <b>·</b>	Y36L4	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	(Not preserved), 145 (Not preserved), 160 (HCL 161 (HCL), 162 (HCL), 16: (HCL) (6)		S: 2/27/2007	10:00		1-L amber missing			
7	Y36L5	Ground Water/ Robert Hernandez	Ľ⁄G	SIM TVOA (21), SVOA (21)	(HCL) (6) 146 (Not preserved), 147 (Not preserved), 164 (HCL 165 (HCL), 166 (HCL), 16 (HCL) (6)		S: 2/27/2007	11:05		σK			
.\"	Y36L6	Ground Water/ Robert Hernandez	l/G	SIM TVOA (21), SVOA (21)	148 (Not preserved), 149 (Not preserved), 168 (HCL 169 (HCL), 170 (HCL), 17		S: 2/27/2007	11:10		O'K_			

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:	• • •	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:	
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact?	7
SIM TVOA = CLP TCL V	/olatiles (including SIM), SVOA = 1,4-Dioxane				7-

Y36L7

TR Number:

Robert Hernandez

Ground Water/

Y36L7

S: 2/27/2007

13:02

F2V5.1. 043 Page 1 of 1

(HCL) (6)

(HCL) (6)

SIM TVOA (21),

SVOA (21)

150 (Not preserved), 151

(Not preserved), 172 (HCL), 173 (HCL), 174 (HCL), 175

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## **USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record**

Case No:	36184	
DAS No:		
SDG No:	436K5	· I

Ì	Date Shipped:	2/28/2007	_	Chain of Custoo	I NECOIU	Sampler Signature:		For La	b Use Only	
	Carrier Name:	FedEx		Relinquished By	(Date / Time)	Received By	(Date / Time)	Lab Con	tract No: E	p-W-05-030
	Airbill: Shipped to:	8592-7811-0283 Mitkern Corporation	1	1/12	252-13-07/1580	M 3.	107 850	Unit Pric	e:	40
1		175 Metro Center E Warwick RI 02886	Blvd.	2	<u> </u>			Transfer	To:	
		(401) 732-3400		3				Lab Соп	tract No:	
L				4				Unit Pric	:e:	
	ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No J PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLL DATE/TIME		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
14	Y36L8	Ground Water/ Robert Hernandez	IJĠ	SIM TVOA (21), SVOA (21)	176 (Not preserved), 177 (Not preserved), 186 (HCL 187 (HCL), 188 (HCL), 189 (HCL) (6)		S:/ 2/28/2007	9:15		OK
15	Y36L9	Ground Water/ Robert Hernandez	IJĠ	SIM TVOA (21), SVOA (21)	178 (Not preserved), 179 (Not preserved), 190 (HCL 191 (HCL), 192 (HCL), 193 (HCL) (6)		S: 2/28/2007	10:12		
16	Y36M0	Ground Water/ Robert Hernandez	VG	SIM TVOA (21), SVOA (21)	180 (Not preserved), 181 (Not preserved), 194 (HCL 195 (HCL), 196 (HCL), 19 (HCL) (6)		S: 2/28/2007	10:51		
17	Y36M1	Ground Water/ Robert Hernandez	l∕G	SIM TVOA (21)	198 (HCL), 199 (HCL), 200 (HCL), 201 (HCL) (4)	O Y36M1	S: 2/28/2007	11:00		
18	Y36M2	Ground Water/ Robert Hernandez	υG	SIM TVOA (21), SVOA (21)	182 (Not preserved), 183 (Not preserved), 202 (HCL 203 (HCL), 204 (HCL), 203 (HCL) (6)		\$: 2/28/2007	11:30		
10	<b>,</b> УЗ6МЗ	Ground Water/ Robert Hernandez	IJĠ	SIM TVOA (21), SVOA (21)	184 (Not preserved), 185 (Not preserved), 206 (HCL 207 (HCL), 208 (HCL), 208 (HCL), 69		S: 2/28/2007	13:17		OK

Shipment for Case Complete? <sub>N</sub>	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	,	Custody Seal Intact?
SIM TVOA ≈ CLP TCL V	olatiles (including SIM), SVOA = 1,4-Dioxane			

TR Number:

TR Number: 9-373659945-022807-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

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Date Shipped:

Carrier Name:

Shipped to:

Airbill:

3/1/2007

8592-7811-0310

(401) 732-3400

Mitkem Corporation

175 Metro Center Blvd. Warwick RI 02886

FedEx

## **USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record**

ase	No:	361	84

DAS No:

436K5 SDG No: For Lab Use Only EP W 05-030 Lab Contract No: 40 Unit Price:

Sampler **Chain of Custody Record** Signature: Relinguished By (Date / Time) (Date / Time) Received By 8:50 3/07 1600 /1W 3 207 Transfer To: Lab Contract No:

<u> </u>								Unit Pri	ce:	
	ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No J PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE © I DATE/TIN		INORGANIC SAMPLE No.	FOR LAB USEONLY Sample Condition On Receipt
تعر	Y36M4 7,	Ground Water/ Robert Hernandez	IJĠ	SIM TVOA (21), SVOA (21)	210 (Not preserved), 211 (Not preserved), 222 (HCL), 223 (HCL), 224 (HCL), 225 (HCL) (6)	Y36M4	S: 3/1/2007	9:21		ov
. ``	Y36M5 THE	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	212 (Not preserved), 213 (Not preserved), 226 (HCL), 227 (HCL), 228 (HCL), 229 (HCL) (6)	Y36M5	S: 3/1/2007	10:08		
D	Y36M6 12 107	Ground Water/ Robert Hernandez	L/G	SIM TVOA (21), SVOA (21)	214 (Not preserved), 215 (Not preserved), 230 (HCL), 231 (HCL), 232 (HCL), 233 (HCL) (6)	Y36M6	S: 3/1/2007	10:53		
3	Y36M7	Ground Water/ Robert Hernandez	l∕G	SIM TVOA (21)	234 (HCL), 235 (HCL), 236 (HCL), 237 (HCL) (4)	Y36M7	S: 3/1/2007	10:38		
4	Y36M8	Ground Water/ Robert Hernandez	<b></b> /G	SIM TVOA (21), SVOA (21)	216 (Not preserved), 217 (Not preserved), 238 (HCL), 239 (HCL), 240 (HCL), 241 (HCL) (6)	Y36M8	S: 3/1/2007	12:25		
5	Y36M9	Ground Water/ Robert Hernandez	Ľ⁄G	SIM TVOA (21), SVOA (21)	218 (Not preserved), 219 (Not preserved), 220 (Not preserved), 221 (Not preserved), 242 (HCL), 243 (HCL), 244 (HCL), 245 (HCL), 246 (HCL), 247	<b>Y</b> 36M9	S: 3/1/2007	13:25		Other ARN 3/2/07

Shipment for Case Complete?N	Sample(s) to be used for laboratory QC:  YSOME LABORD "LAD QC"	Additional Sampler Signature(s):	Cooler Temperature Upon Recelpt:	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	;	Custody Seal Intact?
SIM TVOA = CLP TCL \	Volatiles (including SIM), SVOA = 1,4-Dioxane			

(HCL), 248 (HCL), 249

(HCL) (12)

F2V5.1.043 Page 1 of 1

## 1A - FORM I VOA-1 VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA	SAMPLE	NO.	
/36K7			

Lab Name: MITKEM CORP		Contract:	EP-W-05-030	
Lab Code: MITKEM	Case No.:	36184	Mod. Ref No.:	SDG No.: Y36K5
Matrix: (SOIL/SED/WATE	R) WATER		Lab Sample ID:	F0259-03A
Sample wt/vol: 2	5.0 (g/mL)	ML	Lab File ID:	V2J3285.D
Level: (TRACE/LOW/MED)	TRACE		Date Received:	02/28/2007
% Moisture: not dec.			Date Analyzed:	03/01/2007
GC Column: DB-624	ID:	0.25 (mm)	Dilution Factor:	1.0
Soil Extract Volume:		(uL)	Soil Aliquot Vol	ume: (uL)
Puras Valums: 25 0		(mT.)		

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND .	(ug/L or ug/Kg) UG/L	Q .
75-71-8	Dichlorodifluoromethane	9.2	
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	Ū
	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	340	E
	1,1-Dichloroethene	400	EB
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	480	E
67-64-1	Acetone	50	
75-15-0	Carbon disulfide	0.50	Ū
79-20-9	Methyl acetate	0.50	Ū
75-09-2	Methylene chloride	0.50	Ū
	trans-1,2-Dichloroethene	0.60	
	Methyl tert-butyl ether	3.9	
75-34-3	1,1-Dichloroethane	2.2	
156-59-2	cis-1,2-Dichloroethene	2.7	В
	2-Butanone	5.0	υ
	Bromochloromethane	0.50	U .
	Chloroform	74.	E
	1,1,1-Trichloroethane	0.52	
	Cyclohexane	0.50	
	Carbon tetrachloride	0.36	
	Benzene	0.28	J
	1,2-Dichloroethane	3.8	
123-91-1	1,4-Dioxane	20	U

## 1A - FORM I VOA-1 VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Y36K8

Contract: EP-W-05-030 Lab Name: MITKEM CORPORATION . SDG No.: Y36K5 Mod. Ref No.: Lab Code: MITKEM Case No.: 36184 Lab Sample ID: F0259-04A Matrix: (SOIL/SED/WATER) WATER Lab File ID: V2J3286.D Sample wt/vol: 25.0 (g/mL) Level: (TRACE/LOW/MED) TRACE Date Received: 02/28/2007 \_\_\_ Date Analyzed: 03/01/2007 % Moisture: not dec. ID: 0.25 GC Column: DB-624 (mm) Dilution Factor: 1.0 Soil Extract Volume: (uL) Soil Aliquot Volume:

(mL)

Purge Volume: 25.0

		CONCENTRATION UNITS:	T
CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	6.6	
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	Ū
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	330	E
	1,1-Dichloroethene	. 390	EB
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	430	E
67-64-1	Acetone	42	
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.51	
1634-04-4	Methyl tert-butyl ether	3.4	
75-34-3	1,1-Dichloroethane	2.1	
156-59-2	cis-1,2-Dichloroethene	8.1	В
78-93-3	2-Butanone	5.0	ט
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	43	E
71~55-6	1,1,1-Trichloroethane	0.49	J
	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
	Benzene	0.32	J
107-06-2	1,2-Dichloroethane	2.4	
123-91-1	1,4-Dioxane	20	Ü

## 1B - FORM I VOA-2 VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Y36L5

Lab Name: MITKEM CORPO	RATION		Contract:	EP-W-05-030	
Lab Code: MITKEM	Case No.:	36184	Mod. Ref No.:	SDG No.: Y36K5	
Matrix: (SOIL/SED/WATER	WATER		Lab Sample ID:	F0259-11A	
Sample wt/vol: 25	.0 (g/mL)	ML	Lab File ID:	V2J3320.D	
Level: (TRACE/LOW/MED)	TRACE		Date Received:	02/28/2007	
% Moisture: not dec.			Date Analyzed:	03/03/2007	
GC Column: DB-624	ID:	0.25 (mm)	Dilution Factor:	1.0	
Soil Extract Volume:		(uL)	Soil Aliquot Vol	ume:	(uL)
Purce Volume: 25.0		/mT.\			

		CONCENTRATION UNITS	:	
CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
79-01-6	Trichloroethene		1.4	
108-87-2	Methylcyclohexane		0.50	Ū
78-87-5	1,2-Dichloropropane		0.50	Ū
75-27-4	Bromodichloromethane		0.50	Ü
10061-01-5	cis-1,3-Dichloropropene		0.50	U
108-10-1	4-Methyl-2-pentanone	· ·	5.0	Ü
	3 Toluene	·	0.50	Ü
10061-02-0	trans-1,3-Dichloropropene		0.50	Ū
79-00-9	1,1,2-Trichloroethane		0.50	Ū
127-18-4	Tetrachloroethene		8.2	]
591-78-6	5 2-Hexanone	`	5.0	U
124-48-3	Dibromochloromethane		0.50	Ü
106-93-4	1,2-Dibromoethane		0.50	U
108-90-	Chlorobenzene		0.50	U
100-41-4	Ethylbenzene		0.50	Ü
79601-23-1	l m,p-Xylene		0.50	Ü
95-47-0	o-Xylene		0.50	Ü
100-42-5	Styrene		0.50	Ü
	2 Bromoform		0.50	υ
	Isopropylbenzene		0.50	Ü
	1,1,2,2-Tetrachloroethane		0.50	Ü
	1,3-Dichlorobenzene		0.50	U
	7 1,4-Dichlorobenzene		0.50	U
	l 1,2-Dichlorobenzene		0.50	Ū
	3 1,2-Dibromo-3-chloropropane		0.50	Ü
	1,2,4-Trichlorobenzene		0.50	U
87-61-6	1,2,3-Trichlorobenzene		0.50	ט

## 1J - FORM I VOA-TIC

# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EF	'A SA	MLPI	S NO	•
	6K7			

Lab Name: MITKEM CORPORATION		Contract:	EP-W-05-030		
Lab Code: MITKEM Case	No.: 36184	Mod. Ref No.:	SDG No.: Y36K5		
Matrix: (SOIL/SED/WATER) WA	ATER	Lab Sample ID:	F0259-03A		
Sample wt/vol: 25.0 (c	g/mL) ML	Lab File ID:	V2J3285.D		
Level: (TRACE or LOW/MED)	FRACE	Date Received:	02/28/2007		
% Moisture: not dec.		Date Analyzed:	03/01/2007	<u>.</u>	
GC Column: DB-624	ID: 0.25 (r	nm) Dilution Factor:	1.0		
Soil Extract Volume:	. (1	uL) Soil Aliquot Vol	ume:	(uL)	
CONCENTRATION UNITS: (ug/L o	r ug/Kg) UG/L	Purge Volume: 25	.0	(mL)	

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01-	-2.363	1.0	<del>J</del>
02	•	Unknown-02	3.264	0.75	J
03	306-83-2	Ethane, 2,2-dichloro-1,1,1-triflu	3.327	1.9	NJ
	E966796 1	Total Alkanes	N/A	0	J

<sup>&</sup>lt;sup>1</sup>EPA-designated Registry Number.

5L, 6/21/07

# 1J - FORM I VOA-TIC VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
Y36K9

Lab Name: MITKEM CORPORATION	Contract:	EP-W-05-030		
Lab Code: MITKEM Case N	No.: 36184 M	Nod. Ref No.:	SDG No.:	Y36K5
Matrix: (SOIL/SED/WATER) WAT	ER L	ab Sample ID:	F0259-05A	
Sample wt/vol: 25.0 (g/s	mL) ML L	ab File ID:	V2J3287.D	
Level: (TRACE or LOW/MED) TR	ACE D	ate Received:	02/28/2007	
% Moisture: not dec.	、 D	ate Analyzed:	03/01/2007	
GC Column: DB-624	ID: <u>0.25</u> (mm) D	ilution Factor:	1.0	<u></u>
Soil Extract Volume:	(uL) S	oil Aliquot Vol	ume:	(uL)
CONCENTRATION UNITS: (ug/L or	ug/Kg) UG/L P	urge Volume: 25	5.0	(mL)
CAS NUMBER COMP	OUND NAME	RT	EST. CONC.	Q
01 Unknown-01		3.264	11	J ·
02 306-83-2 Unknown-02-Ethan	e 2,2 dichoro-1,1,1-trifluo	3.317	1.6	J <b>.</b>
E966796 1 Total Alkanes	, ,	N/A	0	J

SL, 6/21/07

<sup>&</sup>lt;sup>1</sup> EPA-designated Registry Number.

## 1J - FORM I VOA-TIC ' VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Y36L0

Lab Name: MITKEM CORPORATION		Contract: EP-W-05-030				
Lab Code: M	ITKEM Ca	ase No.: 36184		Mod. Ref No.:	SDG No.:	Y36K5
Matrix: (SOI	L/SED/WATER)	WATER		Lab Sample ID:	F0259-06A	
Sample wt/vo	1: 25.0	(g/mL) ML	<u>.</u>	Lab File ID:	V2J3478.D	
Level: (TRAC	E or LOW/MED)	TRACE		Date Received:	02/28/2007	
% Moisture:	not dec.	<u>·                                     </u>		Date Analyzed:	03/07/2007	
GC Column:	DB-624	ID: 0.25	(mm)	Dilution Factor:	1.0	
Soil Extract	Volume:		(uL)	Soil Aliquot Vol	ume:	(uL)
CONCENTRATIO	N UNITS: (ug/I	or ug/Kg) UG/	'L	Purge Volume: 25	5.0	(mL)
CAS NUMBI	ER	COMPOUND NAME		RT	EST. CONC.	Q
01 420-56	4 Primethyls	ilyl fluoride		-2.356	· <del>1.2</del>	-NJ
02 .	Unknown-01			13.531	. 1.0	J ·

54 6/211-7

N/A

E966796 Total Alkanes
EPA-designated Registry Number.

## 1J - FORM I VOA-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

	EPA	SHMELLE	NO.	
1				_
	Y361	1		

Lab Name: MITKEM CORPORATION		Con	tract:		EP-W-05-01	30 ·				
Lab Code: MI	TKEM Ca	ase No.: 36184		Mod	Ref No.	:		SDG No.:	Y36K5	
Matrix: (SOII	J/SED/WATER)	WATER		Lab	Sample I	D:	F0259-07A			
Sample wt/vol: 25.0 (g/mL) ML			Lab File ID: V2J3316.D							
Level: (TRACE	or LOW/MED)	TRACE		Dat	e Receive	d:	02/28/2007	7		
% Moisture: r	ot dec.			Dat	e Analyze	d:	03/03/2007	1	*****	
GC Column: I	DB-624	ID: 0.25	(mm)	Dil	ution Fac	tor:	1.0			
Soil Extract	Volume:		(uL)	Soi	l Aliquot	Volu	ıme:	`		(uL)
CONCENTRATION	UNITS: (ug/I	or ug/Kg)	JG/L	Pur	ge Volume	: 25	.0			(mL)
CAS NUMBE	R	COMPOUND NAME		T	RT		EST. CO	NC.	1.	Q
01	Unknown-01				3.275			1.0	J	
02 306-83-2	Unknown-02	Ethane, 2,2-dichlors	0-1.1.1-tri	fluor	3.327			3.5	J <b>M</b>	
03 76-12-0	<del>Unknown-03</del>	Pthane, 1,1,2,2-tetrad	hloro-1.2	-diffe	Long_ 6.982			0.69	JW	
E96679	96 Total Alka	nes			N/A			0	J	

<sup>1</sup> EPA-designated Registry Number.

5L, 6/01/07

Table 9. Volatile Deuterated Monitoring Compounds (DMCs) and the Associated Target Compounds

Chloroethane-ds(DMC)	1,2-Dichloropropane-do (DMC)	1,2-Dichlorobenzene-da(DMC)
Dichlorodifluoromethane Chloromethane Bromomethane Chloroethane Carbon disulfide	Cyclohexane Methylcyclohexane 1,2-Dichloropropane Bromodichloromethane	Chlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene
1,4-Dioxane-d8 (DMC)	trans-1,3-Dichloropropene-d4 (DMC)	Chloroform-d (DMC)
1,4-Dioxane	cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane	1,1-Dichloroethane Bromochloromethane Chloroform Dibromochloromethane Bromoform
2=Butanone=ds(DMC)	1,1-Dichloroethene-dz (DMC)	2-Hexanone-ds(DMC)
Acetone 2-Butanone	trans-1,2-Dichloroethene cis-1,2-Dichloroethene	4-Methyl-2-pentanone 2-Hexanone
Vinyl chloride-d; (DMC)	Benzene⊧d₀(DMC)	1,1,2,2-Tetrachloroethane-di (DMC)
Vinyl chloride	Benzene	1,1,2,2,-Tetrachlororethane 1,2-Dibromo-3-chloropropane
1;2-Dichloroethane-da (DMC)	Toluene-ds (DMC)	
Trichlorofluoromethane 1,1-Dichloroethene 1,1,2-Trichloro-1,2,2- trifluoroethane Methyl acetate Methylene chloride Methyl-tert-butyl ether 1,1,1-Trichloroethane Carbon tetrachloride 1,2-Dibromoethane	Trichloroethene Toluene Tetrachloroethene Ethylbenzene o-Xylene m,p-Xylene Styrene Isopropylbenzene	
1,2-Dichloroethane		

USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA-540-R-04-009, January 2005 Draft Final)